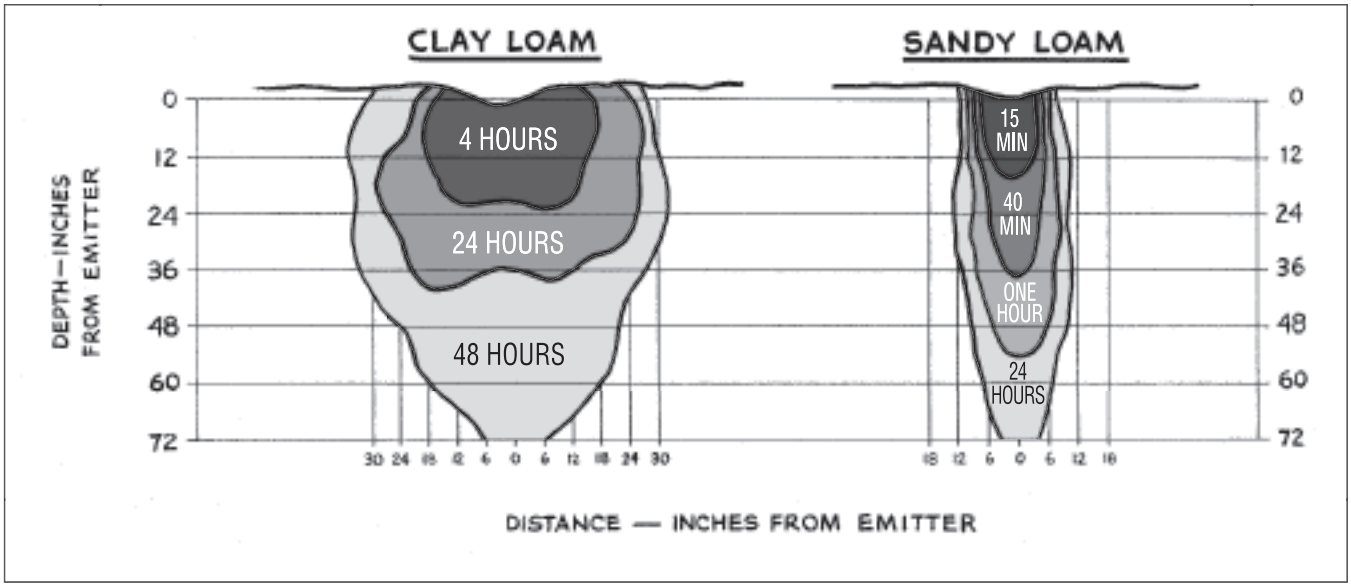

Figure #7: This drawing shows how widely water spreads in different soils over time. This pattern is much like that produced by a drip irrigation emitter on similar soil.

give you a pretty good idea as to the mineral composition of your soil. As mentioned earlier, the ideal mix is a loam composed of 45% sand, 40% silt, and 15% clay. Measure the layers in your jar and do the math.

Another approach to soil exploration is to dig two-foot-deep holes in several parts of the yard, fill each hole with water, then time how quickly or slowly the soil drains. If a hole takes less than an hour to empty, you've got pretty good drainage. If it takes longer than that, you might consider amending the soil structure with organic matter such as leaf mold and/or compost, or planting on a mound. [See the chapter "Planting Trees and Shrubs", page 129.]

Two variables that will determine factors such as fertilization and irrigation needs are: (1) the depth of the grass roots and (2) the soil type in your lawn. To literally dig up this information (don't be like a friend of mine who once said "You know, I love nature. I just don't want to get any on me."), make small trenches or holes in several places around your yard and measure for yourself how deeply the grass roots penetrate. If you don't want to deface an established lawn, you can purchase a 20.5-inch soil-core sampler. [See Figure #5, page 23.] This is a narrow metal tube with a portion of the cylinder left open along its length to allow you to see the different layers of the soil in sequence from the top down. (They can also be used to tell how deeply a clay layer can be located.) Twist the tube clockwise into the ground. Twist counterclockwise just a bit and pull it out. With a little practice, you'll learn to spot the depth of the roots as they penetrate the core-sampler layers.

Of course, all turf is not equal. Bermuda grass, for instance, can grow roots up to eight feet deep in sandy soil, but its greatest mat of roots will be in the first six inches and the majority of them in the first foot down. (Be careful, however, about seeding Bermuda grass if you're not sure that's what you want; once it's growing in your soil, it's practically impossible to get rid of, as it will re-sprout from even the tiniest roots.) Bermuda grass is heat- and drought-tolerant and often used in the "Sun Belt." It is very rugged and